

From glowbugs@theporch.com Thu Nov 28 10:26:41 1996
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1])
by uro.theporch.com (8.8.4/AUX-3.1.1)
with SMTP id KAA24177;
Thu, 28 Nov 1996 10:22:46 -0600 (CST)
Date: Thu, 28 Nov 1996 10:22:46 -0600 (CST)
Posted-Date: Thu, 28 Nov 1996 10:22:46 -0600 (CST)
Received-Date: Thu, 28 Nov 1996 10:22:46 -0600 (CST)
Message-Id: <199611281622.KAA24177@uro.theporch.com>
Errors-To: conard@tntech.campus.mci.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 366
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Status: 0

GLOWBUGS Digest 366

Topics covered in this issue include:

- 1) Re: Hartley oscillator tuning vs coil size
by rdkeys@csemail.cropsci.ncsu.edu
- 2) ?
by Richard Wilkerson <richqrp@pacbell.net>
- 3) interesting TX circuit
by Bob Roehrig <broehrig@admin.aurora.edu>
- 4) 6GW8 and 6BM8 xmtrs
by "Brian Carling" <bry@mail1.mnsinc.com>
- 5) 6BM8 & 6GW8 articles
by "Brian Carling" <bry@mail1.mnsinc.com>
- 6) A QSO with NA4G
by k7yha@juno.com (Richard H. Arland)
- 7) I fixed my chirp
by Gordon Gekko <gekko@nwlinc.com>
- 8) I tried
by Richard Wilkerson <richqrp@pacbell.net>
- 9) Thanksgiving
by k7yha@juno.com (Richard H. Arland)
- 10) Rectifier help please!
by "Brian Carling" <bry@mail1.mnsinc.com>
- 11) Re: Rectifier help please!
by "Brian Carling" <bry@mail1.mnsinc.com>

Date: Wed, 27 Nov 1996 13:44:27 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: bry@mnsinc.com
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Hartley oscillator tuning vs coil size
Message-ID: <9611271844.AA105167@csemail.cropsci.ncsu.edu>

> > Maybe my 811A's are too down to oscillate well. I only have a pair
> > that were junkbox pulls, so that could be part of the problem. My
> > tanks are very HI-C, and normally have about 8-10 turns on 80M, max.
> > Every other tube I have tried, seems to percolate well, but that
> > crazy pair of 811A's of mine.....hmm.....(:+\.....
> >
> > I would appreciate any other's Hartley experiences with the 811A,
> > too.
> >
> > 73/ZUT DE NA4G/Bob UP
>
> Are you SERIOUS?
> You only use 8-10 turns for a plate coil in a hartley for 80m!???
> I find that astonishing!
> Must be using, what about 2,500 pF resonator variable cap?
>
> Puzzled look...
> Bry

Yes, for a HI-C circuit, you need about 500pf minimally across the plate tank circuit to resonate the coil to 80M. That translates into a rule of thumb of about 8-10 turns of plate tank coil, about 2.5-3.0 inches in diameter, made from MINIMALLY no. 10 wire, and often 1/4 inch copper tubing for a 10 watt size oscillator. Around 500-700pf usually will work with such a coil on 80M, to the low end of the band, by my practical rules de thumbe.

By equation, for 80M, where L is in uhenries (uh) and C is in ufarads (uf):

$$1) \quad \text{wavelength in meters} = 1885 \sqrt{LC}$$

$$\text{or,} \quad LC = \text{sq}(80/1885) = 0.001801181.$$

For 80M, using 500pf, or 0.0005 uf, solving for L:

$$2) \quad L = 0.001801181/0.0005 = 3.60 \text{ uh.}$$

Thus, for an 80M coil, about 3.60 theoretical microhenries is needed.

Now, let us see how my rule of thumb coil matches up.....

To calculate a typical inductance for such a coil, where L is in uh:

$$3) \quad L = 0.0251 \text{ sq}(d) \text{ sq}(n) l K$$

where l is the length of the coil in inches, and d is the diameter of the coil in inches, and n is the number of turns per inch, and K is the Nagoaka correction factor, K, for diameter/length effects. If we choose a coil 2.5 inches in diameter and 3 inches long with 3.33 turns per inch and 10 turns total (close enough for a demonstration approximation of my rule of thumb coil):

$$4) \quad \text{the diameter/length ratio} = 2.5/3 = 0.833$$

which, from tables of Nagoaka's K, gives a K value of 0.72.

Thus the inductance of a theoretical coil of the above characteristics is:

$$5) \quad L = 0.0251 \times 2.5 \times 2.5 \times 3.33 \times 3.33 \times 3.0 \times 0.45 = 3.76 \text{ uh}$$

My coil of 8-10 turns, 2.5 inch diameter, 3 inches long is about that same size of inductance. Thus, my practical rule of thumb coil is pretty close, for all intents and purposes on 80M with 500-700pf to tune it. Generically I use about a 150pf max tuning cap and pad the rest with good fixed mica or ceramic tubs down into that 500-700pf range. That gives a fine control of bandspread on 80M of about 3510-3600khz, using a 100 or so pf tuning capacitor, which makes the Hartley easy to tune, and keeps you in the band.

It works for me. Unless my calculations are horribly off by orders of magnitude due to keypad errors, it all fits, theoretically and practically.

73/ZUT DE NA4G/Bob UP

Date: Wed, 27 Nov 1996 11:12:47 -0800
From: Richard Wilkerson <richqrp@pacbell.net>
To: glowbugs@theporch.com
Subject: ?
Message-ID: <329C92AF.51B@pacbell.net>

Happy Turkey Day to all..and hope to work some of you tonight if I can make it..

--

Rich Wilkerson, WD6FDD, Santee, Ca.
NorCal, ARCI, ARS, QRP-L & E.C.R.A.

Date: Wed, 27 Nov 1996 19:10:47 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: glowbugs <glowbugs@theporch.com>
Subject: interesting TX circuit
Message-ID: <Pine.ULT.3.95.961127185906.1229C-100000@admin.aurora.edu>

Looking thru a Jan 1947 of CQ, I found an interesting transmitter ckt. It has an 807 final and uses a 25 watt lamp in the cathode for protection and this looks very interesting. The lamp is connected between cathode and ground and is bypassed with both a .01 and a 4uf cap.

The text says:

"Out-of-resonance type of overload on an 807 can be practically eliminated by using a mazda lamp as an automatic cathode bias resistor. By choosing a lamp of such wattage that normal cathode bias is obtained at a very dull red color, operation of the lamp on a 'steep shoulder' of its current vs. resistance characteristic takes place. This means that if the plate circuit is detuned from resonance, the natural increase of plate current will increase the cathode bias about as the square of the current increase. This tends to reduce the plate current and if the proper lamp is chosen it is possible to hold the out-of-resonance current to about 125% of normal load value. A single 25 watt lamp does an effective job with a single 807 and a 40 watt size takes care of a pair of 807's. The lamp also protects against excessive current in case the oscillator is not functioning or is being keyed for CW."

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

Date: Wed, 27 Nov 1996 17:32:27 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: glowbugs@theporch.com
Subject: 6GW8 and 6BM8 xmtrs
Message-ID: <199611280129.UAA28593@user2.mnsinc.com>

Hi guys - there are now TWO sets of schematics and articles being circulated on the Internet for these little triode-pentode powerhouse xmtrs.

If you did NOT already get them, let me know and I will e-mail them to you.

They have already been sent out to the guys on the 6BM8/ECL82 rigs Groupmail list.

73, Bry - AF4K

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*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
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Date: Wed, 27 Nov 1996 19:15:58 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: glowbugs@theporch.com
Subject: 6BM8 & 6GW8 articles
Message-ID: <199611280312.WAA02027@user2.mnsinc.com>

Is there someone that can provide a place that we can make these .gif xmtr articles available at an FTP site???

72 de AF4K

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*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
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Date: Thu, 28 Nov 1996 04:38:29 PST
From: k7yha@juno.com (Richard H. Arland)
To: boatanchors@theporch.com, glowbugs@theporch.com, Hallicrafters@juno.com
Subject: A QSO with NA4G
Message-ID: <19961128.043832.4407.5.k7yha@juno.com>

Gang:

My first 80 meter QSO with my new callsign was done with Boatanchor Bob, NA4G. We swapped 599 reports about 0345Z on 3579 kc. Bob was runnin "Big Bertha" while I was a little more conservative, using my SX-117/HT-44 combo. I remember my first QSO as KN7YHA 33 years ago with my elmer, George Comstoc, W7CJ. That was on 80 meters, too.

I will always remember this QSO with one of the premier Boatanchors, NA4G. Tnx Bob. You really made my day!

73 es Happy Thanksgiving to all.

rich K7SZ

Date: Wed, 27 Nov 1996 20:45:47 -0800 (PST)
From: Gordon Gekko <gekko@nwlink.com>
To: glowbugs@theporch.com
Subject: I fixed my chirp
Message-ID: <199611280445.UAA21533@montana.nwlink.com>

Hi gang,

Following the advice of a number who replied to my OD3 questions, I have eliminated the tube :(and used a 10,000 ohm 10watt resistor to ground after the B+ resistor and this seems a good compromise between the wildly whoopy chirpy no-tube 20-watt end and the sweet tone 3.5 watt output tone with the OD3 in place. I now get a solid 15 watts output from my 6V6 with a minimal amount of chirp. I have to really watch the grid variable setting, but once I get it and the rig is warmed up, the tone is right on the money and the output solid.

Just worked Tucson with a 559 (I'm in Tacoma, Washington) and my first contact last night was with Ft. Wayne Indiana (although I did get a lousy report and he lost me).

This is really fun! Definitely brings back the magic I felt as a kid in the early 70's with my first novice shack.

Anyone for a sked on 7.046? Let me know - I'm off the next 4 days, so maybe we can give it a go. Only drawback is the ubiquitous W1AW freaking code practice at 7.048 or so. Yikes! Are they running 10KW or what?

73's

Dave Ellison WB7AWK
gekko@nwlink.com
kenwood@nwlink.com

Date: Wed, 27 Nov 1996 20:57:49 -0800
From: Richard Wilkerson <richqrp@pacbell.net>
To: glowbugs@theporch.com
Subject: I tried
Message-ID: <329D1BCD.4937@pacbell.net>

Well I gave it my best shot. Heard NA4G in qso with W5FRS but I just could not get in there. Waited for Bob to ask for check in's right around 0330 Z but just did not have enough juice to get there. I'll keep tring. Sure have heard lots of signals on the freq.
73's..and I'll get ya one of these days...rich
--

Rich Wilkerson, WD6FDD, Santee, Ca.
NorCal, ARCI, ARS, QRP-L & E.C.R.A.
scQRPion #41

Date: Thu, 28 Nov 1996 05:21:26 PST
From: k7yha@juno.com (Richard H. Arland)
To: boatanchors@theporch.com, Hallicrafters@juno.com,
Subject: Thanksgiving
Message-ID: <19961128.052129.4407.6.k7yha@juno.com>

Howdy:

Here's wishing you and yours a very Happy Thanksgiving.

73 rich K7SZ (FINALLY!!)

Date: Wed, 27 Nov 1996 22:15:52 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: glowbugs@theporch.com
Subject: Rectifier help please!
Message-ID: <199611280612.BAA04450@user2.mnsinc.com>

OK all you chaps with tube base diagrams & info, I need JUST a little bit more help here...
Tell me if you will what the pin-outs are for a 5U4.

Also, I have this circuit for an octal rect. with the 5V heater wiring going to pins 2 & 8

The plates are pins 4 and 6, but there is nothing connected to a cathode or filament in the way of DC output to the filter section. Can anyone tell me what the intended rect. might have been in this circuit?

Thanks in advance - Bry

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*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
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Date: Wed, 27 Nov 1996 22:43:17 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: Richard Wilkerson <richqrp@pacbell.net>
Subject: Re: Rectifier help please!
Message-ID: <199611280639.BAA04925@user2.mnsinc.com>

HEY! It's a reply from AF4K!

So, uh forgive me but it's been a while.
Are you saying that IS a 5U4 that I should try?
Also, does it have a seperate heated cathode or is the filament the cathode?

On 27 Nov 96, Richard Wilkerson wrote:

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> Brian Carling wrote:
> >
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> > *** See the great ham radio resources at: *
> > ** http://www.mnsinc.com/bry/ *
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> > *****
>
>
> Thats right..NC. to pin 1
> 2 and 8 are the five volts
> 4 and 6 are plates.
>
> --
>
> Rich Wilkerson, WD6FDD, Santee, Ca.
> NorCal, ARCI, ARS, QRP-L & E.C.R.A.
>          scQRPion #41
>
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*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
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End of GLOWBUGS Digest 366
